AMENDMENT

Amendments to the Claims

The listing of claims presented below replaces all prior versions, and listings, of claims in the application.

Applicant wishes to make the following amendments to the claims of the above patent application:

Listing of Claims

1-6. (cancelled)

7. (currently amended) A method for producing a cell culture substrate comprising:

~~a patterning substrate forming process of~~ forming a patterning substrate by forming: on a base material, a light shielding ~~portion~~element containing a material which can shield an energy, and a cell adhesive layer having adhesion to a cell and containing a cell adhesive material which is decomposed or denatured by an action of a photocatalyst upon energy irradiation so as to cover the light shielding ~~portion~~ energy;

~~an energy irradiating process of~~ irradiating energy to the patterning substrate from the base material side to form a pattern consisting of: a cell adhesion inhibiting portion in which the cell adhesive material is decomposed or denatured, and a cell adhesion portion which is other than the cell adhesion inhibiting portion; and

attaching or adhereing ~~a cell adhesion process of making a~~ cell ~~adhere~~ to the cell adhesion portion in a cell culture medium containing the cell and a culture medium.

8. (previously presented) The method for producing a cell culture substrate according to Claim 7, wherein the cell adhesive layer is a photocatalyst-containing cell adhesive layer containing a photocatalyst and the cell adhesive material.

9. (currently amended) The method for producing a cell culture substrate according to Claim 7, wherein the patterning substrate forming process is a process of forming the patterning substrate is formed by forming a photocatalyst-containing layer containing at least a photocatalyst and the light shielding element ~~portion~~ on the base material, and by forming the cell adhesive layer on the photocatalyst-containing layer.

10. (currently amended) The method for producing a cell culture substrate according Claim 7, wherein the cell adhesion inhibiting portion is further irradiated with an ~~the~~ energy to prevent the cell from adhereing at a time of attaching or adhereing the cell to the cell adhesion portion~~during the cell adhesion process~~.

11. (currently amended) The method for producing a cell culture substrate according to Claim 8, wherein the cell adhesion inhibiting portion is further irradiated with an~~the~~ energy to prevent the cell from adhering at a time of attaching or adhering the cell to the cell adhesion portion~~during the cell adhesion process~~.

12. (currently amended) The method for producing a cell culture substrate according to Claim 9, wherein the cell adhesion inhibiting portion is further irradiated with an~~the~~ energy to prevent the cell from adhereing at a time of attaching or adhering the cell to the cell adhesion portion ~~during the cell adhesion process~~.

13. (currently amended) The method for producing a cell culture substrate according to Claim 7, wherein ~~a cell pattern retaining process of retaining~~ the pattern of the cell adhered to the cell adhesion portion is retained ~~carried out~~ by

further irradiating the cell adhesion inhibiting portion with anthe energy to remove the cell from the cell adhesion inhibiting portion ~~from the base material side~~ after the cell is attached or adhered to the cell adhesion portion ~~adhesion process~~.

14. (currently amended) The method for producing a cell culture substrate according to Claim 8, wherein ~~a cell pattern retaining process of retaining~~ the pattern of the cell adhered to the cell adhesion portion is ~~carried out~~retained by further irradiating the cell adhesion inhibiting portion with an ~~the~~ energy to remove the cell from the cell adhesion inhiiting portion ~~from the base material side~~ after the cell is attached or adhered to the cell adhesion portion ~~adhesion process~~.

15. (currently amended) The method for producing a cell culture substrate according to Claim 9, wherein ~~a cell pattern retaining process of retaining~~ the pattern of the cell adhered to the cell adhesion portion is ~~carried out~~retained by further irradiating the cell adhesion inhibiting portion with an ~~the~~ energy to remove the cell from the cell adhesion inhibiting portion ~~from the base material side~~ after the cell is attached or adhered to the cell adhesion portion ~~adhesion process~~.

16. (withdrawn) An apparatus for producing a cell culture substrate, wherein the apparatus comprising:

a substrate support portion for supporting a substrate;

a cell culture medium retaining portion which retains a cell culture medium containing a cell and a culture medium, and has a pH adjusting means for retaining a pH of the cell culture medium and a temperature control means for retaining temperature of the cell culture medium; and

an energy irradiation portion for irradiating the substrate with energy.